Huawei CloudEngine S5735-S-V2 Series Hybrid Optical-Electrical Switches Datasheet

Huawei CloudEngine S5735-S-V2 series hybrid optical-electrical switches are standard gigabit Ethernet switches that provide all GE downlink ports, DB50 ports, 10GE uplink ports and 2 stack ports.

Introduction

CloudEngine S5735-S-V2 series hybrid optical-electrical switches are developed based on next-generation high-performing hardware and software platform. CloudEngine S5735-S-V2 switches support simplified operations and maintenance (O&M), and flexible Ethernet networking. It also provides enhanced Layer 3 features and mature IPv6 features. CloudEngine S5735-S-V2 switches can be used in various scenarios. For example, it can be used as an access or aggregation switch on a campus network or as an access switch for Metropolitan Area Network.

Product Overview

Models and Appearances

The following models are available in the CloudEngine S5735-S-V2 series.

Models and appearances of the CloudEngine S5735-S-V2 series

Models and Appearances	Description
 CloudEngine S5735-S24HS4XE-V2	• 24*bundled ports(24*GE SFP ports, 24*PoE++ ports(DB50)), 4*10GE SFP+ ports, 2*12GE stack ports • 1+1 power supply backup • Forwarding performance: 132 Mpps • Switching capacity*: 176 Gbps/520 Gbps
 CloudEngine S5735-S48HS4XE-V2	• 48*bundled ports(48*GE SFP ports, 48*PoE++ ports(DB50)), 4*10GE SFP+ ports, 2*12GE stack ports1+1 power supply backup • Forwarding performance: 168 Mpps • Switching capacity*: 224 Gbps/520 Gbps

*Note：The value before the slash (/) refers to the device's switching capability, while the value after the slash (/) means the system's switching capability.

Power Supply

Technical specifications of the power supplies applicable to the CloudEngine S5735-S-V2 series

Power Module	Technical Specifications	Applied Switch Model

Power Module	Technical Specifications	Applied Switch Model
 PAC600S56-EB	• Dimensions (H x W x D): 40 mm x 66 mm x 215 mm(1.57 in. x 2.6 in. x 8.46 in.) • Weight: 0.9 kg(1.98 lb) • Rated input voltage range: – 100 V AC to 130 V AC; 50/60 Hz – 100 V AC to 240 V AC, 50/60 Hz – 240 V DC • Maximum input voltage range: – 90 V AC to 290 V AC, 45 Hz to 66 Hz – 190 V DC to 290 V DC • Maximum input current: – 100 V AC to 130 V AC: 8 A – 100 V AC to 240 V AC: 8 A – 240 V DC: 4 A • Rated output current: – 53.5 V: 11.21 A – 55.5 V: 10.81 A • Rated output voltage: 53.5 V or 55.5 V • Rated output power: – 100 V AC to 130 V AC input: 300W – 100 V AC to 240 V AC & 240 V DC input: 600W • Hot swap: Supported	• CloudEngine S5735-S24HS4XE-V2 • CloudEngine S5735-S48HS4XE-V2
 PAC1000S56-EB	• Dimensions (H x W x D): 40 mm x 66 mm x 215 mm • Weight: 1.1 kg (2.43 lb) • Rated input voltage range: – 100 V AC to 130 V AC, 50/60 Hz – 200 V AC to 240 V AC, 50/60 Hz – 125V DC to 240 V DC • Maximum input voltage range: – 90 V AC to 290 V AC, 45 Hz to 66 Hz – 100 V DC to 290 V DC • Input current: – 100 V AC to 130 V AC: 12 A – 200 V AC to 240 V AC: 8 A – 240 V DC: 8 A • Rated output current: – 18.69A @53.5V 18.02A @55.5V • Maximum output power: – 900 W (100 V AC to 130 V AC input) – 1000 W (200 V AC to 240 V AC input and 240 V DC input) • Hot swap: Supported	• CloudEngine S5735-S24HS4XE-V2 • CloudEngine S5735-S48HS4XE-V2

Power Module	Technical Specifications	Applied Switch Model
 PDC1000S56-EB	• Dimensions (H x W x D): 40 mm x 66 mm x 215 mm(1.57 in. x 2.6 in. x 8.46 in.) • Weight: 1 kg(2.20 lb) • Rated input voltage range: -48 V DC to -60 V DC • Maximum input voltage range: -38.4 V DC to -72 V DC • Maximum input current: 30 A • Rated output voltage: 53.5 V or 55.5 V • Rated output current: – 53.5 V: 18.69 A – 55.5 V: 18.02 A • Rated output power: 1000 W • Hot swap: Supported	• CloudEngine S5735-S24HS4XE-V2 • CloudEngine S5735-S48HS4XE-V2

CloudEngine S5735-S-V2 series hybrid switch is a PoE switch and supports two power module slots, each of which can have a 1000 W PoE or 600 W PoE power module installed. Pluggable AC and DC PoE power modules can be used together in the same switch.

The following table lists its power supply configurations.

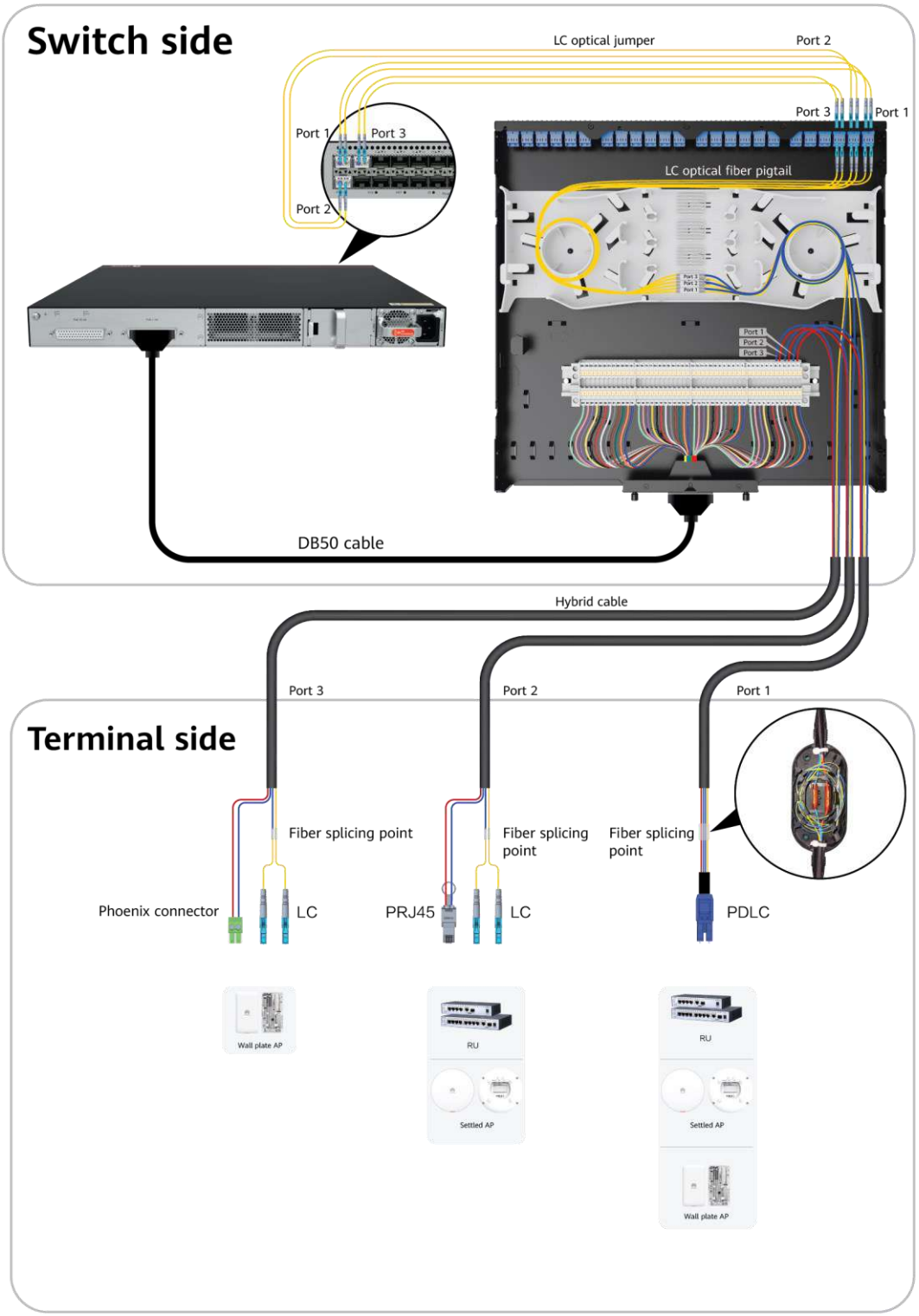
Power supply configurations of CloudEngine S5735-S-V2

Model	Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
S5735-S24HS4XE-V2	1000 W AC (220 V) 1000 W DC	–	810 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 24 • 802.3bt (60 W per port): 13 • 802.3bt (90 W per port): 9
	1000 W AC (110 V)	–	720 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 24 • 802.3bt (60 W per port): 12 • 802.3bt (90 W per port): 6
	1000 W AC (220 V) 1000 W DC	1000 W AC (220 V) 1000 W DC	1710 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 24 • 802.3bt (60 W per port): 24 • 802.3bt (90 W per port): 17
	1000 W AC (110 V) 1000 W DC	1000 W AC (110 V)	1530 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 24 • 802.3bt (60 W per port): 24 • 802.3bt (90 W per port): 17
	600 W AC (220 V)	–	475 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 15 • 802.3bt (60 W per port): 7 • 802.3bt (90 W per port): 5
	600 W AC (110 V)	–	190 W	• 802.3af (15.4 W per port): 12 • 802.3at (30 W per port): 6

Model	Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
				• 802.3bt (60 W per port): 3 • 802.3bt (90 W per port): 2
	600 W AC (220 V)	600 W AC (220 V)	1045 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 15 • 802.3bt (60 W per port): 7 • 802.3bt (90 W per port): 5
	600 W AC (110 V)	600 W AC (110 V)	475 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 24 • 802.3bt (60 W per port): 22 • 802.3bt (90 W per port): 15
	1000 W AC (220 V) 1000 W DC	600 W AC (220 V)	1350 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 24 • 802.3bt (60 W per port): 22 • 802.3bt (90 W per port): 15
S5735-S48HS4XE-V2	1000 W AC (220 V) 1000 W DC	–	810 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 27 • 802.3bt (60 W per port): 13 • 802.3bt (90 W per port): 9
	1000 W AC (110 V)	–	720 W	• 802.3af (15.4 W per port): 46 • 802.3at (30 W per port): 24 • 802.3bt (60 W per port): 12 • 802.3bt (90 W per port): 6
	1000 W AC (220 V) 1000 W DC	1000 W AC (220 V) 1000 W DC	1710 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 48 • 802.3bt (60 W per port): 28 • 802.3bt (90 W per port): 19
	1000 W AC (110 V) 1000 W DC	1000 W AC (110 V)	1530 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 48 • 802.3bt (60 W per port): 25 • 802.3bt (90 W per port): 17
	600 W AC (220 V)	–	475 W	• 802.3af (15.4 W per port): 30 • 802.3at (30 W per port): 15 • 802.3bt (60 W per port): 7 • 802.3bt (90 W per port): 5
	600 W AC (110 V)	–	190 W	• 802.3af (15.4 W per port): 12 • 802.3at (30 W per port): 6 • 802.3bt (60 W per port): 3 • 802.3bt (90 W per port): 2
	600 W AC (220 V)	600 W AC (220 V)	1045 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 34 • 802.3bt (60 W per port): 17

Model	Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
				• 802.3bt (90 W per port): 11
	600 W AC (110 V)	600 W AC (110 V)	475 W	• 802.3af (15.4 W per port): 30 • 802.3at (30 W per port): 15 • 802.3bt (60 W per port): 7 • 802.3bt (90 W per port): 5
	1000 W AC (220 V) 1000 W DC	600 W AC (220 V)	1350 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 45 • 802.3bt (60 W per port): 22 • 802.3bt (90 W per port): 15

Solution Overview



Switch:

The optical ports on the front panel of the switch are connected to the corresponding optical ports on the panel of the fiber management tray through LC jumpers.

The DB50 port on the rear panel of the switch is connected to the DB50 port on the panel of the fiber management tray panel through a DB50 jumper power cord.

Fiber management tray:

The optical fibers of the hybrid cable are spliced with LC pigtails inside the fiber management tray (LC pigtails are prefabricated).

Power cables are connected to interfaces corresponding to power connectors (the DB50 cable is prefabricated).

Port IDs for connecting optical fibers and power cables in the same hybrid cable must be consistent.

Optical-electrical separation

LC + RJ45/Phoenix connector: Optical fibers transmit data through common optical modules while supplying power through RJ45/Phoenix connectors.

Optical-electrical synergy

PLDC: connects to a remote unit or AP through a hybrid module.

Product Features and Highlights

Optical-Electrical Hybrid Access

- CloudEngine S5735-S-V2 provides 24/48 GE SFP ports and 1/2 DB50 electrical ports. The optical ports and DB50 ports are connected to the fiber management tray through LC jumpers and DB50 jumpers respectively. The main optical fiber of the hybrid cable is spliced with the LC pigtail in the fiber management tray. The copper cable is connected to the corresponding power connector to meet the requirements of optical-electrical hybrid access.

Long-distance PoE++ power supply

- When the CloudEngine S5735-S-V2 is used together with hybrid cables, the switch provides 60 W PoE++ power supply at a maximum distance of 300 m based on optical port-electrical port synergy, meeting the power supply requirements of devices (such as Wi-Fi 6 APs and cameras) with a distance of more than 100 m. This reduces the purchase and deployment costs of switches, this feature makes Wi-Fi 6 AP deployment more flexible.
- **Perpetual PoE**: Perpetual PoE: When a PoE switch is warm rebooting (Don't turn PSE switch power off), for example, reboot upon the software upgrade, the power supply to PDs is not interrupted.This capability ensures that PDs are not powered off during the switch warm reboot.
- **Fast PoE**: PoE switches can supply power to PDs within seconds after they are powered on. This is different from common switches that generally take 1 to 3 minutes to start to supply power to PDs. When a PoE switch reboots due to a power failure, the PoE switch continues to supply power to the PDs immediately after being powered on without waiting until it finishes reboot. This greatly shortens the power failure time of PDs.

Powerful Service Processing Capability

- CloudEngine S5735-S-V2 supports a broad set of Layer 2/Layer 3 multicast protocols, such as PIM SM, PIM DM, PIM SSM, and IGMP snooping. This capability is ideal for high-definition video backhaul and video conferencing access.
- CloudEngine S5735-S-V2 provides multiple Layer 3 features including OSPF, IS-IS, BGP, and VRRP, meeting enterprises' access and aggregation service needs and enabling a variety of voice, video, and data applications.

Multiple Security Control Mechanisms

- Huawei switches support post-quantum cryptography (PQC) algorithms and encryption capabilities within transport security protocols, effectively defending against decryption threats posed by quantum computing to deliver future-proof quantum-resistant security for network infrastructure.
- CloudEngine S5735-S-V2 supports MAC address authentication, 802.1X authentication, and implements dynamic delivery of policies (VLAN, QoS, and ACL) to users.
- CloudEngine S5735-S-V2 provides a series of mechanisms to defend against DoS attacks and user-targeted attacks. DoS attacks are targeted at switches and include SYN flood, Land, Smurf, and ICMP flood attacks. User-targeted attacks include bogus DHCP server attacks, IP/MAC address spoofing, DHCP request flood, and changing of the DHCP CHADDR value.
- CloudEngine S5735-S-V2 sets up and maintains a DHCP snooping binding table, and discards the packets that do not match the table entries. The DHCP snooping trusted port feature ensures that users connect only to the authorized DHCP server.
- CloudEngine S5735-S-V2 supports strict ARP learning, which protects a network against ARP spoofing attacks to ensure that users can connect to the Internet normally.

Multiple Reliability Mechanisms

- CloudEngine S5735-S-V2 is equipped with two pluggable power modules that work in 1+1 redundancy backup mode. Mixed installation of AC and DC power modules is supported, allowing for flexible configuration of AC or DC power modules according to service requirements.
- In addition to supporting traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), CloudEngine S5735-S-V2 is also designed with the industry's latest Ethernet Ring Protection Switching (ERPS) technology. This protocol is reliable, easy to maintain, and implements fast protection switching within 50 ms. ERPS is defined in ITU-T G.8032, and it implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.
- CloudEngine S5735-S-V2 supports Smart Link, which implements backup of uplinks. One CloudEngine S5735-S-V2 switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Easy Network deployment

- CloudEngine S5735-S-V2 supports SDN-based automatic deployment of policies for wired and wireless users on the entire network and refined management and control, implementing free mobility.
- CloudEngine S5735-S-V2 supports Huawei Easy Operation, a solution that provides zero-touch deployment, replacement of faulty devices without additional configuration, USB-based deployment, batch device configuration, and batch remote upgrade. The capabilities facilitate device deployment, upgrade, service provisioning, and other management and maintenance operations, and also greatly reduce O&M costs. CloudEngine S5735-S-V2 can be managed using SNMP v1/v2c/v3, CLI, web-based network management system, or SSH v2.0. Additionally, it supports RMON, multiple log hosts, port traffic statistics collection, and network quality analysis, which facilitate network optimization and reconstruction.

Mature IPv6 Technologies

- CloudEngine S5735-S-V2 uses the mature, stable platform and supports IPv4/IPv6 dual stack, IPv6 RIPng.
- CloudEngine S5735-S-V2 can be deployed on a pure IPv4 network, a pure IPv6 network, or a shared IPv4/IPv6 network, helping achieve IPv4-to-IPv6 transition.

Intelligent Stack (iStack)

- CloudEngine S5735-S-V2 supports intelligent stack (iStack). This technology combines multiple switches into a logical switch. Member switches in a stack implement redundancy backup to improve device reliability and use inter-device link aggregation to improve link reliability.
- iStack provides high network scalability. You can increase ports, bandwidth, and processing capacity of a stack by simply adding member switches to the stack.
- iStack also simplifies device configuration and management. After a stack is set up, multiple physical switches are virtualized into one logical device. You can log in to any member switch in the stack to manage all the member switches in the stack. CloudEngine S5735-S-V2 support stacking through electrical ports.

Network Slicing Functions

- CloudEngine S5735-S-V2 provides a range of VLAN slicing functions to meet diversified SLA requirements of different services and customers. Service isolation and bandwidth guarantee are implemented based on QoS. Slices can be completely isolated from each other without affecting each other. Traffic is isolated at the physical layer, and network slicing is performed for services on the same physical network. The Network Slicing technology can be used at the access, aggregation, and core layers to meet differentiated SLA requirements of new services on campus networks.

Intelligent O&M

- CloudEngine S5735-S-V2 provides telemetry technology to collect device data in real time and send the data to Huawei campus network analyzer CampusInsight. The CampusInsight analyzes network data based on the intelligent fault identification algorithm, accurately displays the real-time network status, effectively demarcates and locates faults in a timely manner, and identifies network problems that affect user experience, accurately guaranteeing user experience.
- CloudEngine S5735-S-V2 supports the WebMaster solution, featuring an embedded local management system. It automatically discovers network topology and provides full-network visibility, including topology views, network elements (NEs), and device alarms. The solution also enables unified management of switches, AR routers, and APs—without requiring an external network management system.WebMaster offers a graphical interface for intuitive operations, including guided service provisioning, one-click batch upgrades, zero-configuration device replacement, and automatic authentication and onboarding of

NEs. It can also detect loops caused by incorrect cable connections and eliminate them automatically.With its rich feature set, WebMaster enables the entire campus network to be visible, manageable, and controllable—all through a single device.

Intelligent Upgrade

- CloudEngine S5735-S-V2 supports the intelligent upgrade feature. Specifically, CloudEngine S5735-S-V2 obtains the version upgrade path and downloads the newest version for upgrade from the Huawei Online Upgrade Platform (HOUP). The entire upgrade process is highly automated and achieves one-click upgrade. In addition, preloading the version is supported, which greatly shortens the upgrade time and service interruption time.
- The intelligent upgrade feature greatly simplifies device upgrade operations and makes it possible for the customer to upgrade the version independently. This greatly reduces the customer's maintenance costs. In addition, the upgrade policies on the HOUP platform standardize the upgrade operations, which greatly reduces the risk of upgrade failures.

Cloud Management

- The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX. Huawei switches support both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI).

OPS(Open Programmability System)

- CloudEngine S5735-S-V2 supports Open Programmability System (OPS), an open programmable system based on the Python language. IT administrators can program the O&M functions of a CloudEngine S5735-S-V2 switch through Python scripts to quickly innovate functions and implement intelligent O&M.

Licensing

CloudEngine S5735-S-V2 supports both the traditional feature-based licensing mode and the latest Huawei IDN One Software (N1 mode for short) licensing mode. The N1 mode is ideal for deploying Huawei CloudCampus Solution in the on-premises scenario, as it greatly enhances the customer experiences in purchasing and upgrading software services with simplicity.

Software Package Features in N1 Mode

Switch Functions	N1 Basic Software	N1 Foundation Software Package	N1 Advanced Software Package
Basic network functions: Layer 2 functions, IPv4, IPv6 and others Note: For details, see the Service Features	√	√	√
Basic network automation based on the iMaster NCE-Campus: • Basic automation: Plug-and-play • Basic monitoring: Application visualization • NE management: Image and topology management and discovery • User access authentication	×	√	√
Automation and intelligent O&M: Basic functions for intelligent network analysis of CampusInsight.	×	√	√
Advanced network automation and intelligent O&M: Endpoint plug&play of iMaster NCE-Campus and Application analysis function of CampusInsight.	×	×	√

Product Specifications

Functions and Features

Item	Description
MAC address table	IEEE 802.1d compliance
	MAC address learning and aging
	Static, dynamic, and blackhole MAC address entries
	Packet filtering based on source MAC addresses
VLAN	4K VLANs
	Voice VLAN
	MUX VLAN
	Basic QinQ & Selective QinQ
Reliability	Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover
	STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)
	ERPS (G.8032)
	BPDU protection, root protection, and loop protection
	LLDP
IP routing	Static route, RIPv1/v2, RIPng, OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+, ECMP, VRRP, VRRP6, Routing Policy, Policy-Based Routing
IPv6 features	Path MTU (PMTU)
	IPv6 ping, IPv6 tracert, and IPv6 Telnet
Multicast	PIM DM, PIM SM, PIM SSM
	IGMP v1/v2/v3, IGMP v1/v2/v3 snooping, MLD Snooping and IGMP fast leave
	Multicast load balancing among member ports of a trunk
	Port-based multicast traffic statistics
	Multicast VLAN
QoS/ACL	Rate limiting on packets sent and received by a port
	Packet redirection
	Port-based traffic policing and two-rate three-color CAR
	Eight queues on each port
	DRR, SP and DRR+SP queue scheduling algorithms
	Re-marking of the 802.1p priority and DSCP priority
	Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, and VLAN ID
	Rate limiting in each queue and traffic shaping on ports
	Network Slicing（VLAN）

Item	Description
Security	Hierarchical user management and password protection
	DoS attack defense, ARP attack defense, and ICMP attack defense
	Binding of the IP address, MAC address, port number, and VLAN ID
	Port isolation, port security, and sticky MAC
	Blackhole MAC address entries
	Limit on the number of learned MAC addresses
	IEEE 802.1x authentication and limit on the number of users on a port
	AAA authentication, RADIUS authentication, HWTACACS authentication, and NAC
	SSH v2.0
	HTTPS
	CPU defense
	Blacklist and whitelist
	IEEE 802.1x authentication, MAC address authentication
	DHCPv4 client/relay/server/snooping
	DHCPv6 client/relay
	Attack source tracing and punishment for IPv6 packets such as ND, DHCPv6
Management and maintenance	iStack
	Cloud management based on Netconf/Yang
	Virtual cable test
	SNMP v1/v2c/v3
	RMON
	Web-based NMS
	System logs and alarms of different levels
	802.3az EEE
	IFIT
	Port mirroring, RSPAN, Flow mirroring
	Registration Center Deployment
	WebMaster Management
Interoperability	Supports VBST (Compatible with PVST/PVST+/RPVST)

Hardware Specifications

Hardware specifications of the CloudEngine CloudEngine S5735-S24HS4XE-V2/S5735-S48HS4XE-V2 models

Item		CloudEngine S5735-S24HS4XE-V2	CloudEngine S5735-S48HS4XE-V2
Physical specifications	Dimensions (H x W x D, mm)	43.6 mm x 442 mm x 420 mm	43.6 mm x 442 mm x 420 mm

Item		CloudEngine S5735-S24HS4XE-V2	CloudEngine S5735-S48HS4XE-V2
	Chassis height	1 U	1 U
	Chassis weight (including packaging)	7.35 kg	7.85 kg
Fixed port	GE port	NA	NA
	DB50 port	1	2
	GE SFP port	24	48
	10GE SFP+ port	4	4
	Dedicated 12GE stack port	2	2
Management port	Console port (RJ45)	Supported	Supported
	USB port	USB 2.0	USB 2.0
CPU	Frequency	1.1 GHz	1.1 GHz
	Cores	2	2
Device buffer (byte)	Device buffer (byte)	Buffer of a chip: 2 MB	4MB
Storage	Memory (RAM)	2 GB	2 GB
Power supply system	Power supply type	• 600 W PoE AC • 1000 W PoE AC • 1000 W PoE DC	• 600 W PoE AC • 1000 W PoE AC • 1000 W PoE DC
	Power supply redundancy	1+1	1+1
	Rated voltage range	• AC input: 100 V AC to 130 V AC, 200 V AC to 240 V AC; 50/60 Hz • High-voltage DC input: 240 V DC (PAC600S56-EB; PAC1000S56-EB (02314APU)) • High-voltage DC input: 125 V DC to 240 V DC (PAC1000S56-EB (02314APU-001)) • DC input: –48 V DC to –60 V DC	• AC input: 100 V AC to 130 V AC, 200 V AC to 240 V AC; 50/60 Hz • High-voltage DC input: 240 V DC (PAC600S56-EB; PAC1000S56-EB (02314APU)) • High-voltage DC input: 125 V DC to 240 V DC (PAC1000S56-EB (02314APU-001)) • DC input: –48 V DC to –60 V DC
	Maximum voltage range	• AC input: 90 V AC to 290 V AC; 45 Hz to 65 Hz • High-voltage DC input: 190 V DC to 290 V DC (PAC600S56-EB; PAC1000S56-EB (02314APU)) • High-voltage DC input: 100 V DC to 290 V DC (PAC1000S56-EB (02314APU-001)) • DC input: –38.4 V DC to –72 V DC	• AC input: 90 V AC to 290 V AC; 45 Hz to 65 Hz • High-voltage DC input: 190 V DC to 290 V DC (PAC600S56-EB; PAC1000S56-EB (02314APU)) • High-voltage DC input: 100 V DC to 290 V DC (PAC1000S56-EB (02314APU-001)) • DC input: –38.4 V DC to –72 V DC
	Maximum power consumption(input)	• Without PoE: 72.72 W • Full PoE load: 1940.45 W (PoE: 1710 W)	• Without PoE: 113.62 W • Full PoE load: 1998.52 W (PoE: 1710 W)

Item		CloudEngine S5735-S24HS4XE-V2	CloudEngine S5735-S48HS4XE-V2
	Typical power consumption	53.1 W	84.7 W
	Static power consumption	33 W	48 W
Heat dissipation system	Heat dissipation mode	Air-cooled heat dissipation and intelligent speed adjustment	Air-cooled heat dissipation and intelligent speed adjustment
	Number of fan modules	2	2
	Airflow	Air intake from left, front, and right and air exhaust from rear	Air intake from left, front, and right and air exhaust from rear
	Maximum heat dissipation of the device (BTU/hour)	• Without PoE: 248.13 • Full PoE load: 6621.01	• Without PoE: 387.68 • Full PoE load: 6819.15
Environment parameters	Long-term operating temperature	• 0-1800 m altitude: -5°C to +50°C • 1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.	• 0-1800 m altitude: -5°C to +50°C • 1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.
	Short-term operating temperature[3]	NA	NA
	Storage temperature	-40°C to +70°C	-40°C to +70°C
	Relative humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)
	Operating altitude	5000 m	5000 m
	Noise under normal temperature (sound power)[4]	48.7dB (A)	48.7 dB(A)
	Noise under high temperature (sound power)[4]	58.2dB (A)	55.8 dB(A)
	Noise under normal temperature (sound pressure)[4]	36.7dB (A)	36.7 dB(A)
	Surge protection specification (RJ45 service port)	NA	NA
	Surge protection specification (power port)	• AC power port: ±6 kV in differential mode, ±6 kV in common mode • DC power port: ±2 kV in differential mode, ±4 kV in common mode	• AC power port: ±6 kV in differential mode, ±6 kV in common mode • DC power port: ±2 kV in differential mode, ±4 kV in common mode
Reliability	MTBF (year)[2]	91.97	60.98
	MTTR (hour)	2	2
	Availability	> 0.99999	> 0.99999
Certification		• EMC certification	• EMC certification

Item	CloudEngine S5735-S24HS4XE-V2	CloudEngine S5735-S48HS4XE-V2
	• Safety certification • Manufacturing certification	• Safety certification • Manufacturing certification

NOTE

1: The power consumption under different load conditions is calculated according to the ATIS standard. Additionally, the EEE function is enabled and there is no PoE power output.

2: The reliability parameter values are calculated based on the typical configuration of the device. The parameter values vary according to the modules configured by the customer.

3: Short term indicates that the successive operating time is no more than 96 hours, the total operating time is no more than 360 hours, or the number of times the operating temperature is over 45° C is no more than 15 in a year.

4: Refer to ISO 7779 Standard

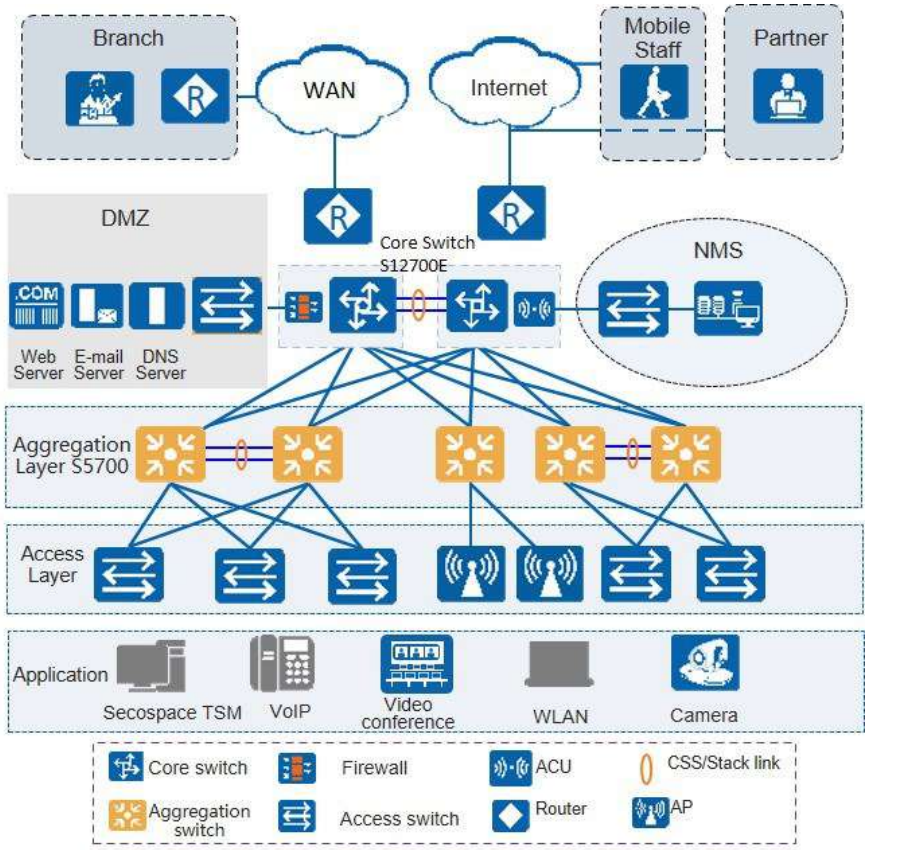
Performance Specification

Entries	S5735-S-V2 series switches
Number of dynamic MAC address entries	Up to 32K
Number of static MAC address entries	1024
Maximum number of VLANs	4094
Number of VLANIF interfaces	1024
IPv4 routing entries	Up to 8192
IPv6 routing entries	Up to 4000
Number of ARP entries	Up to 4000
Number of ND entries	Up to 3072
ACL scale entries	IPv4: 2432 @ 320 bits; IPv6: 1536 @ 480 bits
IPv4/IPv6 multicast L2 entries	1024
IPv4/IPv6 multicast L3 entries	1024
Jumbo frames	10240

Networking and Applications

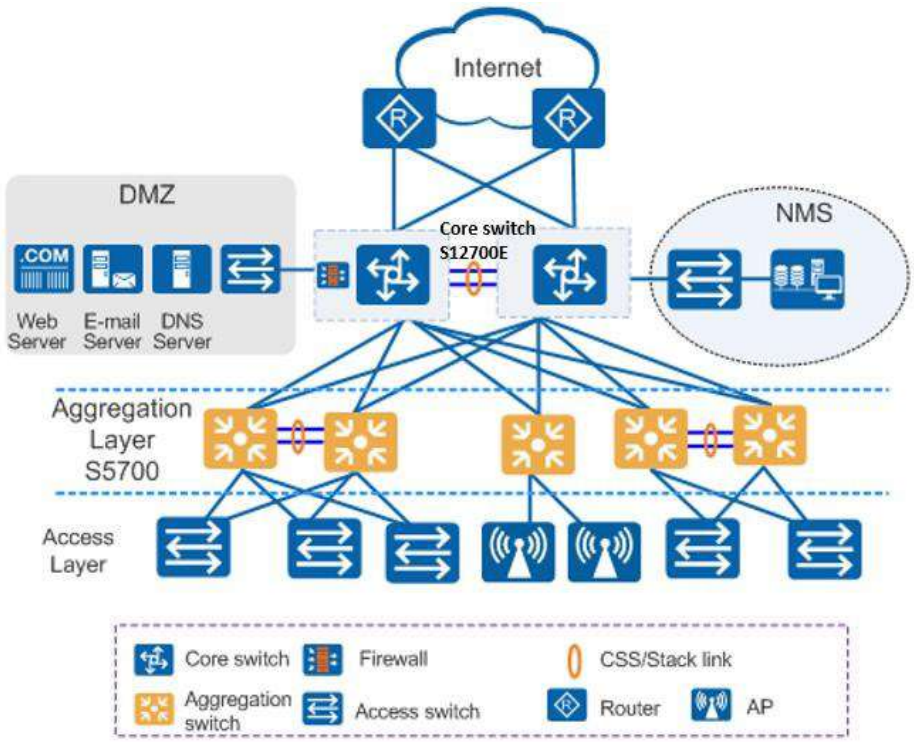
Large-Scale Enterprise Campus Network

CloudEngine S5735-S-V2 series hybrid optical-electrical switches can be deployed at the access layer of a campus network to build a high-performance and highly reliable enterprise network.



Small- or Medium-scale Enterprise Campus Network

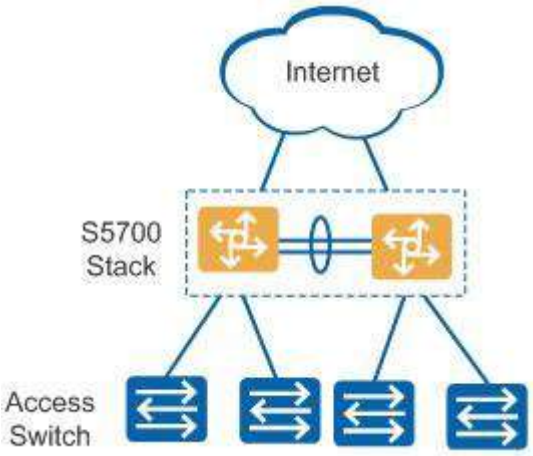
CloudEngine S5735-S-V2 series hybrid optical-electrical switches can be deployed at the aggregation layer of a campus network to build a high-performance, multi-service, and highly reliable enterprise network.



Small-scale Enterprise Campus Network

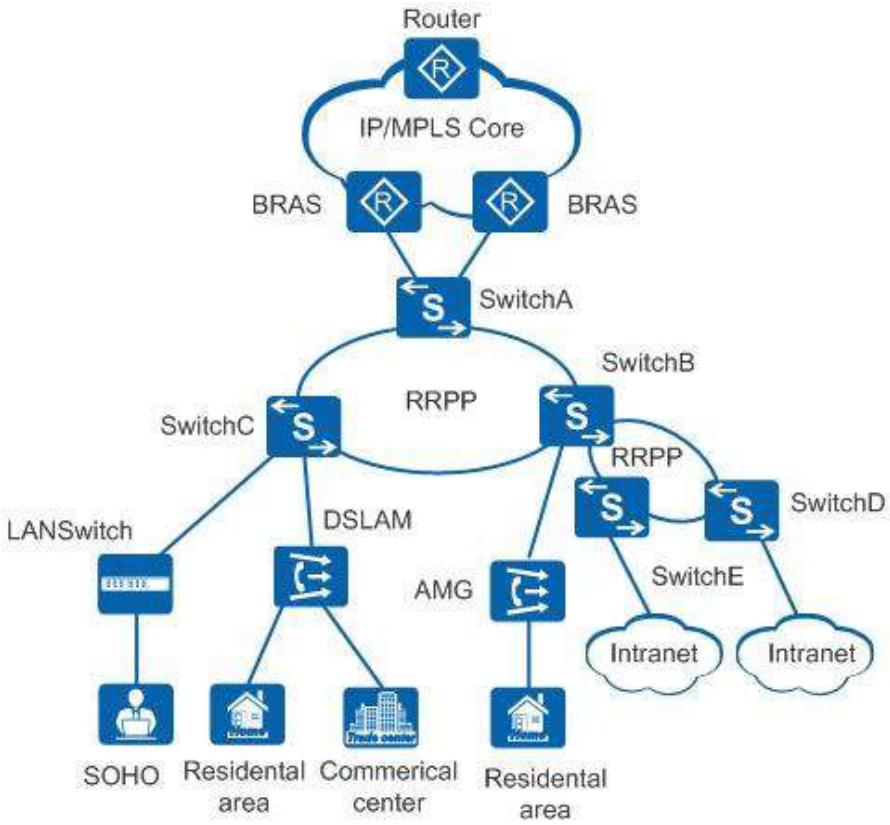
With powerful aggregation and routing capabilities of CloudEngine S5735-S-V2 series hybrid optical-electrical switches make them suitable for use as core switches in a small-scale enterprise network. Two or more S5735-S-V2 switches use iStack

technology to ensure high reliability. They provide a variety of access control policies to achieve centralized management and simplify configuration.



Application on a MAN

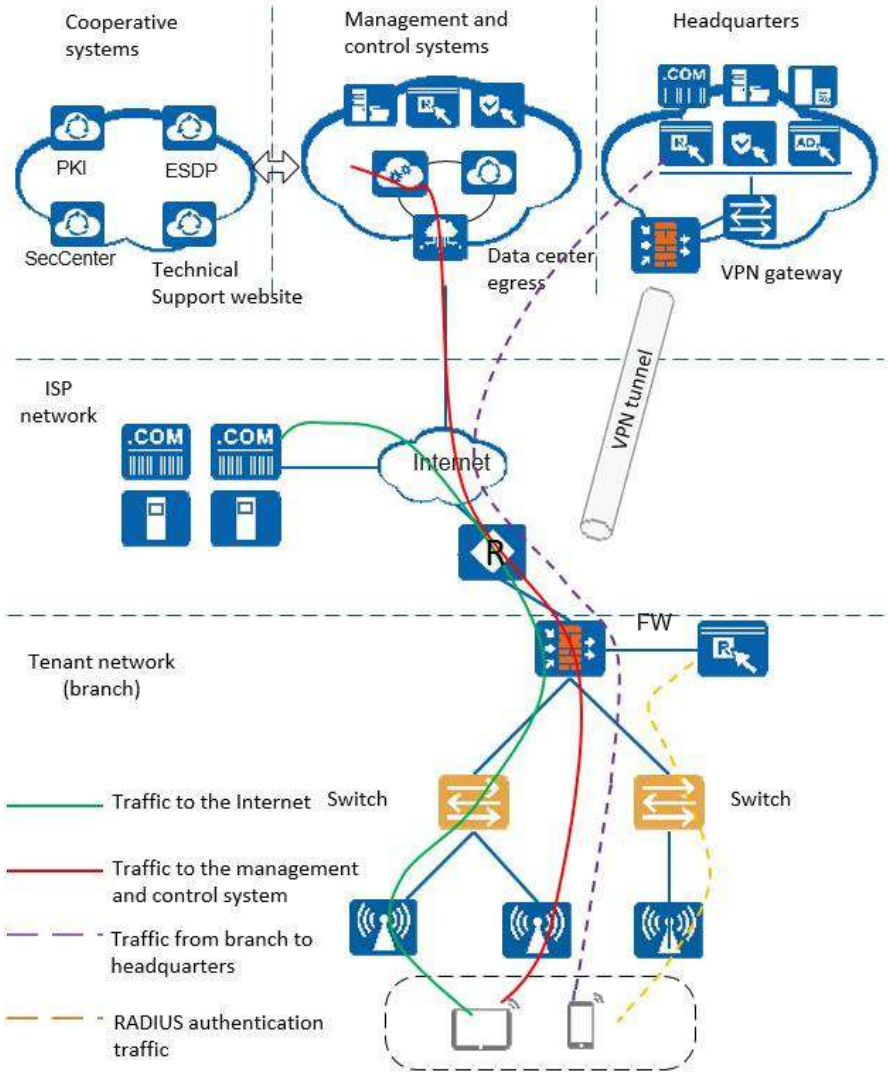
CloudEngine S5735-S-V2 series hybrid optical-electrical switches can be deployed at the access layer of a MAN(Metropolitan Area Network) to build a high-performance, multi-service, and highly reliable ISP MAN network.



Application in Public Cloud

CloudCampus Solution is a network solution suite based on Huawei public cloud.CloudEngine S5735-S-V2 series hybrid optical-electrical switches can be located at the access layer.

The switches are plug-and-play. They go online automatically after being powered on and connected with network cables, without the need for complex configurations, and use bidirectional certificate authentication to ensure management channel security. The switches provide the NETCONF and YANG interfaces, through which the management and control system delivers configurations to them. In addition, remote maintenance and fault diagnosis can be performed on the management and control system.



Safety and Regulatory Compliance

Certification Category	Description
Safety	IEC 62368-1
	EN 62368-1
	UL 62368-1
	CSA C22.2 No 62368-1
Electromagnetic Compatibility (EMC)	CISPR32
	CISPR35
	EN 55032
	EN 55035
	ETSI EN 300 386
	CFR 47 FCC Part 15
	ICES 003
	AS/NZS CISPR32

Certification Category	Description
	VCCI
	IEC61000-4-2
Environment	RoHS
	REACH
	WEEE
Laser safety	IEC60825-1
	IEC60825-2
	EN60825-1
	EN60825-2

NOTE

- EMC: electromagnetic compatibility
- CISPR: International Special Committee on Radio Interference
- EN: European Standard
- ETSI: European Telecommunications Standards Institute
- CFR: Code of Federal Regulations
- FCC: Federal Communication Commission
- IEC: International Electrotechnical Commission
- AS/NZS: Australian/New Zealand Standard
- VCCI: Voluntary Control Council for Interference
- UL: Underwriters Laboratories
- CSA: Canadian Standards Association
- IEEE: Institute of Electrical and Electronics Engineers
- RoHS: restriction of the use of certain hazardous substances
- REACH: Registration Evaluation Authorization and Restriction of Chemicals
- WEEE: Waste Electrical and Electronic Equipment

MIB and Standards Compliance

Supported MIBs

Category	MIB
Public MIB	• BRIDGE-MIB • DISMAN-NSLOOKUP-MIB • DISMAN-PING-MIB • DISMAN-TRACEROUTE-MIB • ENTITY-MIB • EtherLike-MIB • IF-MIB • IP-FORWARD-MIB • IPv6-MIB • LAG-MIB • LLDP-EXT-DOT1-MIB

Category	MIB
	• LLDP-EXT-DOT3-MIB • LLDP-MIB • NOTIFICATION-LOG-MIB • NQA-MIB • OSPF-TRAP-MIB • P-BRIDGE-MIB • Q-BRIDGE-MIB • RFC1213-MIB • RIPv2-MIB • RMON-MIB • SAVI-MIB • SNMP-FRAMEWORK-MIB • SNMP-MPD-MIB • SNMP-NOTIFICATION-MIB • SNMP-TARGET-MIB • SNMP-USER-BASED-SM-MIB • SNMPv2-MIB • TCP-MIB • UDP-MIB
Huawei-proprietary MIB	• HUAWEI-AAA-MIB • HUAWEI-ACL-MIB • HUAWEI-ALARM-MIB • HUAWEI-ALARM-RELIABILITY-MIB • HUAWEI-BASE-TRAP-MIB • HUAWEI-BRAS-RADIUS-MIB • HUAWEI-BRAS-SRVCFG-EAP-MIB • HUAWEI-BRAS-SRVCFG-STATICUSER-MIB • HUAWEI-CBQOS-MIB • HUAWEI-CDP-COMPLIANCE-MIB • HUAWEI-CONFIG-MAN-MIB • HUAWEI-CPU-MIB • HUAWEI-DAD-TRAP-MIB • HUAWEI-DC-MIB • HUAWEI-DATASYNC-MIB • HUAWEI-DEVICE-MIB • HUAWEI-DHCPR-MIB • HUAWEI-DHCPS-MIB • HUAWEI-DHCP-SNOOPING-MIB • HUAWEI-DIE-MIB • HUAWEI-DNS-MIB • HUAWEI-DLDP-MIB • HUAWEI-ELMI-MIB • HUAWEI-ERPS-MIB • HUAWEI-ERRORDOWN-MIB

Category	MIB
	• HUAWEI-ENERGYMNGT-MIB • HUAWEI-EASY-OPERATION-MIB • HUAWEI-ENTITY-EXTENT-MIB • HUAWEI-ENTITY-TRAP-MIB • HUAWEI-ETHARP-MIB • HUAWEI-ETHOAM-MIB • HUAWEI-FLASH-MAN-MIB • HUAWEI-FWD-RES-TRAP-MIB • HUAWEI-GARP-APP-MIB • HUAWEI-GTSM-MIB • HUAWEI-HGMP-MIB • HUAWEI-HWTACACS-MIB • HUAWEI-IF-EXT-MIB • HUAWEI-INFOCENTER-MIB • HUAWEI-IPPOOL-MIB • HUAWEI-IPV6-MIB • HUAWEI-ISOLATE-MIB • HUAWEI-L2IF-MIB • HUAWEI-L2MAM-MIB • HUAWEI-L2VLAN-MIB • HUAWEI_LDT-MIB • HUAWEI-LLDP-MIB • HUAWEI-MAC-AUTHEN-MIB • HUAWEI-MEMORY-MIB • HUAWEI-MFF-MIB • HUAWEI-MFLP-MIB • HUAWEI-MSTP-MIB • HUAWEI-MULTICAST-MIB • HUAWEI-NAP-MIB • HUAWEI-NTPV3-MIB • HUAWEI-PERFORMANCE-MIB • HUAWEI-PORT-MIB • HUAWEI-PORTAL-MIB • HUAWEI-QINQ-MIB • HUAWEI-RIPv2-EXT-MIB • HUAWEI-RM-EXT-MIB • HUAWEI-RRPP-MIB • HUAWEI-SECURITY-MIB • HUAWEI-SEP-MIB • HUAWEI-SNMP-EXT-MIB • HUAWEI-SSH-MIB • HUAWEI-STACK-MIB • HUAWEI-SWITCH-L2MAM-EXT-MIB • HUAWEI-SWITCH-SRV-TRAP-MIB • HUAWEI-SYS-MAN-MIB

Category	MIB
	• HUAWEI-TCP-MIB • HUAWEI-TFTPC-MIB • HUAWEI-TRNG-MIB • HUAWEI-XQOS-MIB

NOTE

For more detailed information of MIBs supported by the CloudEngine S5735-S series, visit https://support.huawei.com/enterprise/en/switches/s5700-pid-6691579?category=reference-guides&subcategory=mib-reference.

Standard Compliance

Standard Organization	Standard or Protocol
IETF	• RFC 768 User Datagram Protocol (UDP) • RFC 792 Internet Control Message Protocol (ICMP) • RFC 793 Transmission Control Protocol (TCP) • RFC 826 Ethernet Address Resolution Protocol (ARP) • RFC 854 Telnet Protocol Specification • RFC 951 Bootstrap Protocol (BOOTP) • RFC 959 File Transfer Protocol (FTP) • RFC 1058 Routing Information Protocol (RIP) • RFC 1112 Host extensions for IP multicasting • RFC 1157 A Simple Network Management Protocol (SNMP) • RFC 1256 ICMP Router Discovery • RFC 1305 Network Time Protocol Version 3 (NTP) • RFC 1349 Internet Protocol (IP) • RFC 1493 Definitions of Managed Objects for Bridges • RFC 1542 Clarifications and Extensions for the Bootstrap Protocol • RFC 1643 Ethernet Interface MIB • RFC 1757 Remote Network Monitoring (RMON) • RFC 1901 Introduction to Community-based SNMPv2 • RFC 1902-1907 SNMP v2 • RFC 1981 Path MTU Discovery for IP version 6 • RFC 2131 Dynamic Host Configuration Protocol (DHCP) • RFC 2328 OSPF Version 2 • RFC 2453 RIP Version 2 • RFC 2460 Internet Protocol, Version 6 Specification (IPv6) • RFC 2461 Neighbor Discovery for IP Version 6 (IPv6) • RFC 2462 IPv6 Stateless Address Auto configuration • RFC 2463 Internet Control Message Protocol for IPv6 (ICMPv6) • RFC 2474 Differentiated Services Field (DS Field) • RFC 2740 OSPF for IPv6 (OSPFv3) • RFC 2863 The Interfaces Group MIB • RFC 2597 Assured Forwarding PHB Group • RFC 2598 An Expedited Forwarding PHB • RFC 2571 SNMP Management Frameworks

Standard Organization	Standard or Protocol
	• RFC 2865 Remote Authentication Dial In User Service (RADIUS) • RFC 3046 DHCP Option82 • RFC 3376 Internet Group Management Protocol, Version 3 (IGMPv3) • RFC 3513 IP Version 6 Addressing Architecture • RFC 3579 RADIUS Support For EAP • RFC 4271 A Border Gateway Protocol 4 (BGP-4) • RFC 4760 Multiprotocol Extensions for BGP-4 • draft-grant-tacacs-02 TACACS+
IEEE	• IEEE 802.1D Media Access Control (MAC) Bridges • IEEE 802.1p Traffic Class Expediting and Dynamic Multicast Filtering • IEEE 802.1Q Virtual Bridged Local Area Networks • IEEE 802.1ad Provider Bridges • IEEE 802.2 Logical Link Control • IEEE Std 802.3 CSMA/CD • IEEE Std 802.3ab 1000BASE-T specification • IEEE Std 802.3ad Aggregation of Multiple Link Segments • IEEE Std 802.3ae 10GE WEN/LAN Standard • IEEE Std 802.3x Full Duplex and flow control • IEEE Std 802.3z Gigabit Ethernet Standard • IEEE802.1ax/IEEE802.3ad Link Aggregation • IEEE 802.1ab Link Layer Discovery Protocol • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1w Rapid Spanning Tree Protocol • IEEE 802.1s Multiple Spanning Tree Protocol • IEEE 802.1x Port based network access control protocol • IEEE 802.3af DTE Power via MIDI • IEEE 802.3at DTE Power via the MDI Enhancements
ITU	• ITU SG13 Y.17ethoam • ITU SG13 QoS control Ethernet-Based IP Access • ITU-T Y.1731 ETH OAM performance monitor
ISO	• ISO 10589 IS-IS Routing Protocol
MEF	• MEF 2 Requirements and Framework for Ethernet Service Protection • MEF 9 Abstract Test Suite for Ethernet Services at the UNI • MEF 10.2 Ethernet Services Attributes Phase 2 • MEF 11 UNI Requirements and Framework • MEF 13 UNI Type 1 Implementation Agreement • MEF 15 Requirements for Management of Metro Ethernet Phase 1 Network Elements • MEF 17 Service OAM Framework and Requirements • MEF 20 UNI Type 2 Implementation Agreement • MEF 23 Class of Service Phase 1 Implementation Agreement • XMODEM/YMODEM Protocol Reference

Ordering Information

The following table lists ordering information of the CloudEngine S5735-S-V2 series hybrid optical-electrical switches.

Model	Product Description
CloudEngine S5735-S24HS4XE-V2	S5735-S24HS4XE-V2 (24*bundled ports(24*GE SFP ports, 24*PoE++ ports(DB50)), 4*10GE SFP+ ports, 2*12GE stack ports, without power module)
CloudEngine S5735-S48HS4XE-V2	S5735-S48HS4XE-V2 (48*bundled ports(48*GE SFP ports, 48*PoE++ ports(DB50)), 4*10GE SFP+ ports, 2*12GE stack ports, without power module)
PAC600S56-EB	600 W PoE AC&240 V DC Power Module
PAC1000S56-EB	1000 W PoE AC&240 V DC Power Module
PDC1000S56-EB	1000 W PoE DC Power Module
N1-S57S-M-Lic	S57XX-S Series Basic SW, Per Device
N1-S57S-M-SnS1Y	S57XX-S Series Basic SW, SnS, Per Device, 1Year
N1-S57S-F-Lic	N1-CloudCampus, Foundation, S57XX-S Series, Per Device
N1-S57S-F-SnS1Y	N1-CloudCampus, Foundation, S57XX-S Series, SnS, Per Device,1Year
N1-S57S-A-Lic	N1-CloudCampus, Advanced, S57XX-S Series, Per Device
N1-S57S-A-SnS1Y	N1-CloudCampus, Advanced, S57XX-S Series, SnS, Per Device, 1Year
N1-S57S-FToA-Lic	N1-Upgrade-Foundation to Advanced, S57XX-S, Per Device
N1-S57S-FToA-SnS1Y	N1-Upgrade-Foundation to Advanced, S57XX-S, SnS, Per Device, 1Year

More Information

For more information about Huawei Campus Switches, visit http://e.huawei.com or contact us in the following ways:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Logging in to the Huawei Enterprise technical support website: http://support.huawei.com/enterprise/
- Sending an email to the customer service mailbox: support_e@huawei.com

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